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Digital Ownership across Lifespans

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Introduction

As technology adoption continues to increase across the lifespan, the question of what happens to the resulting digital content at the end of life is increasingly topical. We are embracing opportunities to create and share digital content that has personal significance: photos, emails, blogs, videos and more. This content is superseding the boxes of memory-laden letters and photos which were previously stored in our homes. Digital content has the advantage that it can be created, accessed and shared anywhere, at any time. However, unlike boxes of letters and photos, digital content cannot easily be inherited when its creator dies – especially if it is stored in online accounts. Moreover, ownership itself can be a grey area, with content such as iTunes and eBooks licenced rather than sold to users. Facilities for users to nominate an inheritor for their digital content are largely absent, and (with few exceptions) lack support in law. Inheritors struggle to identify and access online accounts and their content. Internet Service Providers usually refuse to give inheritors access to the deceased's account details, as terms of service commonly stipulate that accounts are non-transferrable. Processes of bequest and inheritance are further clouded because digital and physical death are rarely simultaneous. Users may linger on in a virtual world indefinitely after physical death.

If inheritors gain access to digital content, they are repurposing it. New levels of personalisation are being introduced into funerals and memorial services, as digital content is used to evoke the life of the deceased. Online memorial sites provide opportunities for shared grieving and the maintenance of continuing bonds with the dead. Yet if they lack appropriate moderation, these sites may generate further distress when insensitive posts cannot be removed by those most deeply affected by bereavement.

This chapter explores the issues surrounding ownership of digital content across multiple lifespans, and the ways in which digital content lives on after its creator dies. First, we consider what it means to exist in the digital age, before describing the digital assets which people may own, and the challenges which they face in bequeathing and inheriting them. We acknowledge that definitions of lifespans and death are highly complex, and subject to wide cultural variations. The central focus of this chapter is specifically on lifespans in the UK.

Physical, social and spiritual lifespans in the Digital Age

We suggest that the human lifespan in the Digital Age is made up of three main layers: physical, social and digital (Walter et al. 2012). A fourth one may also be present – the spiritual lifespan. These layers do not run in direct parallel. Their start points may be asynchronous, and the time and cause of ‘death’ will vary. A user can persist digitally long after they have died physically.

For most of us, death will come in old age, after a prolonged physical decline, beset by multiple conditions. By 2030, 86 per cent of deaths are expected to be of older adults (people aged over 65), and 44 per cent of deaths of those will be over 85 (Leadbeter & Garber 2010). Routine bureaucratic processes are associated with physical death. Even death itself is subject to legal definition: in western medical terms, ‘death’ generally refers to brain death (Lock 2001). The time, date and cause of death are recorded, and a death certificate issued. The body is disposed of through burial, cremation, entombment or donation to medical research. Reports of the death travel through the deceased’s network of relatives, friends and acquaintances by a mixture of word-of-mouth, personal correspondence, computer-mediated communication and death notices in the press.

As people move towards the end of life, it is common for many to become increasingly socially isolated, experiencing a ‘withering ... of social identity and social interaction’ (Walter et al. 2012: 15). For some, this will lead to social death, ‘the final event in a sequence of declining social involvement’ (Mulkay 1991: 180). This may be hastened by old age, poor health, lack of mobility, spousal death and institutionalization (Gibson et al. 2010; Lawton 2000). Social death may itself play a role in hastening physical death (Timmermans 1998). Unlike physical death, social death is not accompanied by certification or ritual. Rather, it is a gradual fading. Yet if social death is considered to be the death of all social interaction, it may be delayed until long after physical death through the maintenance of continuing bonds by the bereaved (Klass et al. 1996). Through transferred agency, social existence may continue beyond physical death. Prendergast et al. (2006: 889) have previously commented on the role of cremated remains in sustaining the social identity of the deceased, who are reintegrated into the ‘times and spaces which constituted their life history and social identity’ through ‘new forms of disposal and memorialization’. Further opportunities to sustain social identity are emerging through digital technologies. For example, LifeNaut offers clients the unsettling facility to download their personality into digital form, for future reanimation at a later date. The product claims the potential to ‘create a computer-based avatar to interact and respond with your attitudes, values, mannerisms and beliefs’ (LifeNaut n.d.), although this service is yet to be fully implemented.

The advent of medical technology which can sustain physical life has blurred the edges of our mortality further. In the case of irreversible brain damage (‘brain-stem death’), an individual may be artificially ventilated for a limited period in order to enable successful organ donation (Haddow 2005). Their physical life is sustained temporarily even after a clinician has signed a death certificate, and they are treated by hospital staff and relatives as ‘already dead’ because of their inability to respond socially (Sudnow 1967: 74). Thus in this context social life ends, whilst physical life continues.

The question of what makes up a lifespan is further complicated by conditions such as dementia and traumatic brain injury. Both can lead to dramatic changes in the identity of an individual, memory loss and a decline in cognitive abilities. Relatives and friends may well mourn the loss of the person that they knew, their identity, personality and shared history, despite that person’s continued physical existence (Sweeting & Gilhooly 1997). There are processes in place which recognise the loss of agency associated with significant cognitive

decline. In the UK, a 'Lasting Power of Attorney' (LPA) can even be drawn up in advance by an individual in case they experience incapacity. A Property and Financial Affairs LPA enables a friend, relative or professional to make decisions for that individual about their property and money, whilst a Personal Welfare LPA covers decisions about the person's healthcare and personal welfare (AgeUK n.d.). A decision over whether a Property and Financial Affairs LPA should be invoked is made by a lawyer, whilst a Personal Welfare LPA can be invoked by a medical professional.

After physical death, individuals may expect their existence to continue on in the afterlife, or to be reincarnated into this world in a new form. Such expectation is largely dependent on religious beliefs (e.g. Roman Catholic beliefs in heaven, purgatory and hell) and cultural traditions (e.g. Korean ancestor worship (Prendergast 2005)). Where an expectation of an afterlife exists, death is succeeded by rituals to ease the deceased's passage. Communication between the living and the dead may continue - though such communications are proscribed in several religions. In Spiritualism, the relationship across the 'Great Divide' is a 'continuation of the lived one, with the deceased offering support and advice which the living can then either act on or not ... in many cases it is not so much the content of the communications per se that is significant for people, but rather the fact that their loved ones have communicated with them' (Walliss 2001: 142). This relationship is sustained through the intercessory role of the medium.

The Digital Lifespan

An individual's digital life is usually made up of a mixture of official data (such as birth and marriage records), work-related data, and personal data (such as emails, photos, blogs and group memberships). In this chapter, we focus specifically on personal data. Such data is used to build up one or more digital identities – whether identifiable, pseudonymous or anonymous (Foresight Institute 2013). Much like offline identity and reputation (Fine 2001), care is often taken by users in constructing an online representation of self, with varying degrees of accuracy and completeness used to manipulate the impression projected to suit how the user wants to be perceived by others (boyd & Ellison 2007; Moncur et al. 2009).

Digital existence may begin before a user is born - for example, when parents share ultrasound images of their foetus by email. But what defines the end of digital existence? If physical life ends when a heart stops beating, and social life ends with the extinction of social identity and interaction, does digital death occur when internet use ceases?

Is Digital Death Possible?

It is difficult to establish that a user's online activity has ceased entirely. Online activity is comprised of access to many different services, often from multiple devices and physical locations. A user may also adopt many overlapping identities, sometimes detached from their physical identity or location, and express their identities in different ways (Foresight Institute 2013). This makes it extremely difficult to link digital identities with the originating physical user (Black et al. 2012) – and to identify a comprehensive pattern of discontinued use. If one online account falls out of use, the user may still be active elsewhere on the internet. They may have forgotten their password or account details, or their work place may have blocked access. Clearly, failure to use a specific account should not signify digital death. In the case of posthumous email services - which store users' emails and send them out in the event of the user's death – some do make this flawed assumption. For example, the default setting for *Dead Man's Switch* (<http://www.deadmansswitch.net/>) is for the service to automatically send emails to a user '30, 45, and 52 days after you last showed signs of life'. If the user fails to respond, posthumous emails are issued on their behalf by the service provider. This paves

the way for misunderstandings, embarrassment and potential distress, if errors are made in merging digital and physical layers of existence. It is easy to imagine the messy consequences of a confessional ‘posthumous’ email sent accidentally. Whether someone should even write such an email in the first place is moot.

Cessation of internet use may stem from a range of reasons. Physical death is clearly one of them – although this may not prevent continued online communication. Services such as *Eternity Message* (<https://www.eternitymessage.com/login>) will send out posthumous emails on behalf of a user on specific dates long after their death. A living user may go offline through difficulties with access and cost, or lack of skills, interest and support. This has been observed both amongst 10 per cent of young adults (aged 17-22) in the UK (Eynon & Geniets 2012), and amongst those at the End of Life (EoL). Such difficulties are compounded for those at EoL by declining physical/ cognitive abilities, and by organisational barriers created by care providers (Hourizi et al. 2011). Yet these users should not be considered digitally dead, merely dormant. In Western society, death implies finality, while these lapsed users may log on again if the opportunity presents itself. Even when an individual is banned from using the internet for life - as seen in recent US court judgements against paedophiles (Moshirnia 2009) – it is likely that digital traces of that individual will persist online.

An exception to the lack of clarity over digital death exists in computer gaming, where users interact virtually on a regular basis to form communities and relationships. In the context of World of Warcraft, Gibbs et al. find that online environments and experiences are ‘integral and contiguous with offline environments and experiences, rather than discrete ‘alternate worlds’ (2012). Haverinen documents the Second Life funeral conducted to mark the physical death of a player offline (2010). On these occasions, digital and physical death are (almost) synchronous. However, if we consider the internet as a whole, digital death is almost impossible to identify from patterns of user behaviour, without the ability to link all user accounts back to specific people. Early attempts to link virtual and physical identities have begun (Black et al. 2012), which aim to deliver insights into what aspects of real and virtual identity are important, as well as establishing the social acceptability and legal admissibility of linking real and virtual identities.

Process and Persistence

‘...technologies are not yet designed to effectively acknowledge – or engage with – the inevitable death of their user’ (Massimi & Charise 2009).

As we have described, the notion of digital death is a grey area. The situation is exacerbated by the lack of a standard mechanism for reporting a user’s physical death within the digital world. Internet Service Providers (ISPs), social networking sites (SNSs) and other online service providers are inconsistent in their approaches to managing user death. For example:

- Twitter will close down an account, or help family members to take a backup of Twitter feeds if they provide a link to a public obituary or news article.
- Yahoo! (and by association Flickr and Delicious) will delete an account on receipt of a death certificate (<http://info.yahoo.com/legal/us/yahoo/utos/utos-173.html>).
- eBay have no published policy on how the accounts of a deceased user are handled – even though a deceased user may have funds in their account.
- Google will close down Gmail accounts and possibly give some access to emails, at the request of an ‘authorized representative of a deceased user’, subject to a ‘legal process including an order from a U.S. court and/or submitting additional materials’ ([http://productforums.google.com/forum/#!search/deceased\\$20user/google-plus-](http://productforums.google.com/forum/#!search/deceased$20user/google-plus-)

[discuss/3HmGY1QG-AU/dG84bQXSEWwJ](#)). It is unlikely that many people will be willing to go through a legal process, just to shut down an email account.

- Facebook provides options for ‘verified immediate family members’ (a spouse, parent, sibling, child) or an executor to delete or ‘memorialise’ the deceased’s Facebook page. Memorialisation limits profile access to existing Facebook friends, who can subsequently write on the user’s Wall in remembrance.

Facebook has expended more effort on processes to deal with deceased users than many ISPs, yet most of its estimated 2.89 million users who died in 2012 will continue to linger on (Lustig 2012). Public awareness of the options to delete or memorialise a loved one on Facebook remain limited, and the number of dead users with active accounts continues to rise (Wortham 2010). As a result, invitations to reconnect or ‘Say Happy Birthday!’ will be generated and sent automatically on behalf of dead users. While many social network members will find these messages upsetting, some will welcome them as a way of maintaining a connection with the deceased (Kasket 2012). Indeed, the persistence of a digital identity may help the bereaved to mourn (Brubaker & Hayes 2011), an area which we will address later in this chapter. However, digital persistence after physical death also presents opportunities for spammers and fraudsters to repurpose digital identities for malign and perhaps illegal intent. In semi-structured interviews which we have conducted with the bereaved, one participant described the distress of getting an email from her husband, asking to her to make a payment on his behalf. Her husband had died three months previously. Her shock and distress at receiving the email were compounded by anger when she tried to close down the hacked account. The service provider lacked the relevant processes to allow her to do this, as she was not the account owner. Ultimately the account was closed, but only after extensive efforts by the widow.

It is a measure of the immaturity of current ICT systems that they cater inadequately for the death of their users, despite their ubiquity. Users are likely to persist digitally long after physical death – perhaps indefinitely. Indeed, there is an expectation amongst some users that the internet serves as ‘a repository that cannot die’ (Kirk & Banks 2008). Unless this problem is addressed, the living may be outnumbered by the dead and their data in cyberspace. There is potential for this data to be repurposed for commercial value (Moncur 2014), although it is too early yet to predict what form such repurposing will take.

Assets and their value

Tangible assets

Around 30 per cent of UK adults make a will. This lets them bequeath their heritable and movable property to nominated individuals. ‘*Heritable*’ property refers to any property which cannot be moved – for example, land and houses. ‘*Movable*’ property covers every type of property which is not land or connected with land – such as money, jewellery, books, furniture, computers. While heritable property is subject to the inheritance laws of the country where it is located, movable property is subject to the laws of the country where the owner resided. For those that do not make a will, defaults apply to inheritance based on legal definitions of who is next-of-kin. International legislation exists to resolve uncertainty when assets are distributed across multiple jurisdictions, or questions exist over which country’s laws apply to distribution of the deceased’s movable property (Conseil des Notariats de l’Union Européenne 2010).

Heritable and movable property can be valuable in a variety of ways. A house has obvious financial value. A cheap brooch may be worth little money, yet be imbued with emotional

significance if the deceased wore it often. A filing cabinet laden with paperwork may have informational value, containing vital information to wind up the estate. A completed manuscript may have intellectual value. Any of these items may also serve as repositories for memories and meanings in our lives. Belk identifies that 'photographs, souvenirs, trophies, and more humble everyday objects' serve to 'mark, commemorate and announce our life history' (Belk 1990: 669).

Intangible assets

Who we are: Memory, Identity and Reputation

'Our memories constitute our lives' (Belk 1990: 674), yet memories cannot be bequeathed in the same way as tangible artefacts. I may still remember my grandmother sitting at her kitchen table, even if I do not inherit the table. Just as social death lacks the formal processes associated with physical death, so the bequest of memories is informal. Memories can persist after death if they have been shared in life, supported by oral and written histories, photos and artefacts. The act of sharing makes memories dynamic, subject to incremental change as well as to fading away. Entwined in memory are a sense of individual identity and group continuity. These may be sustained beyond death through the transmission of heirlooms, collections, or other significant possessions – particularly where there are children or grandchildren who are willing to take over. Identity is also entwined with reputation. Fine observes that 'individuals have the power to shape their own reputations, but even historical figures are burnished or tarnished by interested others' (Fine 2001: 6). Our reputation – whether personal or mass-mediated – may outlast us, and change independently after our death for better or worse. Whilst Galileo was vilified by many during his life, his reputation for scientific discovery grew after his death and continues on. The UK BBC television presenter and charity worker, Jimmy Savile, enjoyed an enormously positive socially-constructed reputation during his life. This has been destroyed since his death in 2011 through damning allegations of extensive sexual abuse of children – with journalistic reportage playing an integral part in disseminating the allegations (Lawless 2012).

Digital Assets

We have already observed that it is difficult to die digitally, because of the absence of links between our physical and digital selves, and the lack of a clear process by which the bereaved can declare a loved one digitally dead across all of their online accounts and identities. The awkward question of what happens to personal data after a user dies also lies unanswered. With the exception of three US states – Idaho, Nebraska and Indiana – there is no legal provision for the bequest of data (Yu 2012).

The personal data that makes up users' online identities lies scattered across a virtual landscape comprised of emails, photos, blog posts, financial transactions and more. This data is created, accessed and updated from multiple locations, on multiple devices. It may be stored locally – perhaps on a laptop, smart phone or work computer – or on a remote server via the Cloud. Similar to heritable and movable assets, this data can be imbued with emotional, financial and intellectual significance. Significant quantities of valuable personal data are being generated, as social and business interactions are increasingly conducted online. In *Dying in a Digital Age*, a 2,000 person survey of UK participants which we co-authored, 80 per cent owned digital assets (Remember a charity 2011). Remarkably few (9 per cent) had considered how they would pass on their digital assets when they die, even though:

- Over half stored important domestic and personal details online or on personal computers.
- 74 per cent placed a strong sentimental value on their digital music and photo collections.
- 80 per cent said their digital assets were financially valuable.
- 56 per cent of participants owned a digital music collection. Of these, 45 per cent valued their collection at over £100, and 10 per cent at over £1,000.
- 34 per cent of participants owned Smartphone Apps, with 20 per cent of owners saying their collections were worth over £100.

Even if users do think through which digital assets they want to bequeath, ISPs' terms and conditions will (at best) provide a default for what will happen to personal data after a user dies. At worst, 'instructions for retrieving data after a person dies are [...] non-existent' (Farwell 2007). Given the inevitability of death and the ever-increasing amount of personal data stored online, this situation is unsatisfactory for users, the bereaved and for ISPs (Moncur & Waller 2010). Those who do wish to put their digital affairs in order cannot be sure that their wishes will be actioned if they die. Their inheritors may face an unpleasant and costly legal battle to gain access to the deceased's personal data, especially as users increasingly store their digital assets in the cloud and via online storage rather than on their home PC.

Discussions over digital assets are made more complex by the question of ownership. Just because a user has data does not mean that they own it – even if they have paid for it. Digital versions of books, films and music are usually sold under licence, in a leasing arrangement where the purchaser has the right to use the item, but does not own it. Whilst users may have invested substantial amounts in Kindle books and iTunes music, they cannot legitimately bequeath either. Second Life accounts can also contain substantial financial value. Linden Lab (owners of Second Life) provides the option for any player to proactively nominate an inheritor of their Second Life account and associated assets. They explicitly emphasise the need for players to give their inheritor's 'legal (real-life) name', rather than a digital identity (Linden Research 2012). Questions of ownership are further muddled by co-ownership and replication (Harper et al. 2011). For example, if a photographer takes a digital photo of a group of five people, and shares it with them, who 'owns' it? If the same photo is copied and circulated across social media, ownership may be diluted to the point of irrelevance. A caveat applies however, over which debate continues: recent European legislation on 'The Right To Be Forgotten' arguably 'creates a legally enforceable right to demand the deletion of any photos or data that I post myself, even after they've gone viral, not to mention unflattering photos that include me or information about me that others post, whether or not it is true' (Rosen 2012). It is hard to envisage how this legislation can be implemented.

When we consider their values and potential to be inherited, digital assets currently have more in common with memories, identity and reputation than with tangible assets. They may remain unchanged, be forgotten or lost - or content may be augmented by inheritors in ways unforeseen by the deceased.

Bequest of digital assets

In the absence of standardised practices for the bequest of data, workarounds proliferate. Executry services are offered by start-up companies and lawyers, serving as Band-Aids over the ever-growing problem.

Options

Digital estate planning services are offered by a number of companies (The Digital Beyond 2011), including AssetLock (<http://www.assetlock.net/>), LegacyOrganiser (<http://www.legacyorganiser.com>) and SecureSafe (<http://www.securesafe.com/en/>). They can offer a practical solution to the existing problems of digital bequest. These services usually hold an inventory of online accounts on behalf of the user, and may also store a user's last wishes, instructions for their funeral, emails to be sent out after they die, and instructions in case of brain death. It is usually straightforward to update this digital inventory when online accounts are added or deleted, or passwords change. Digital estate planning services can be useful if a user has many different online accounts, changes passwords often, has a complex set of digital inheritors rather than just one person, or wants the executry process to be carried out automatically once third party proof of physical death is provided. However, there are concerns over their legitimacy and longevity. Firstly, it can be difficult to establish the legitimacy of digital estate services. Some service providers list terrestrial business addresses on their websites, and provide company details: some do not. Most offer to store users' online account logon details and passwords securely – including those for bank accounts. Sharing passwords and account details often violates ISP terms of service. In the case of online banking, password-sharing also exposes the account holder to the risk that their bank will not reinstate the account and its contents in the event of digital fraud and theft. More cautious users may wish to check that the service provider is legitimate, and not an online fraudster. Secondly, the companies offering digital estate services are young (The Digital Beyond 2011): with two exceptions, they were founded after 2005. Uptake of services is lower than initially projected (Nield 2011). This raises the question of whether the user will outlive the service provider, leaving their inheritors without the intended access to digital accounts.

Some lawyers also offer to maintain a digital inventory on behalf of clients. In this case, it is not so straightforward to update the digital inventory, if online accounts are added or deleted, or passwords change. Lawyers may levy an extra charge to update the inventory. A third option is for users to maintain their own list of online accounts, identities, passwords and web addresses, whilst nominating a trusted friend or loved one as their digital executor (Carroll & Romano 2011).

As Band-Aids on the problem of digital bequest, none of the options which we have described above are water-tight. They all violate common ISP terms of service over password sharing. However, they are useful temporary fixes until a robust and ubiquitous solution is found.

What to bequeath? Creation, curation and identity

If users do want to bequeath some of their digital assets, which will they choose to pass on? It is now so easy to create photos, emails and other digital media that the volume of personal data which we create is rising dramatically (Moncur & Waller 2010). Ready availability of cheap online storage reduces the need for immediate curation. In pre-digital times, pressure on space meant that creation and curation were linked. Once read, unimportant letters were thrown in the bin. The return of photos from the developers triggered a process of curation, as accidental shots of feet and thumbs were weeded out. This limited set of photos served as 'an

investment in creating a memory bank' (Chalfen 1987), securing memories and a sense of identity. Now, a small memory card holds thousands of photos, whilst users store a decade or more of emails online, with no intention of deleting them (Kirk & Banks 2008). Creation and curation of digital materials do not go hand-in-hand out of necessity.

Those planning their legacies may face a daunting task in sorting through vast archives of personal data, and identifying those digital assets which are worth passing on. Throwaway comments on Facebook and dull work-related emails will (hopefully) not be worth passing on. Evidence of misdemeanours, affairs or negative opinions about loved ones will be too sensitive. Some assets will be just plain embarrassing, providing Technicolor reminders of events and foolish interactions which are best forgotten (Mayer-Schoneberger 2009). The act of curation allows the user to play an active (but time-consuming) role in the process of negotiating the memories they leave behind – much like the process of impression management that some users undertake on an on-going basis (boyd & Ellison 2007). Conversely, the ability to create limitless copies of data means that all inheritors can potentially get identical copies of data – no matter what material it comprises.

Inheritance and Repurposing

If the deceased has not taken successful proactive steps to manage their digital legacy, inheritors face a complex task to access the personal data left behind. Inheritors may not know what accounts the deceased held online, or what the user ids and passwords are. If the deceased maintained an online address book – for example, in an email contact list – it can even be difficult to notify social network members of the person's death and funeral (Moncur et al. 2012).

As we have already outlined, ISPs do not usually provide the bereaved with access to the deceased's online accounts. Not only is there little profit to be had in providing access (McAlear 2011), there is also a risk of violating privacy. Whilst the dead have no legal right to privacy, there is a risk of violating the privacy of the deceased's still-living correspondents. The decisions taken by Yahoo! in respect of U.S. Marine Corps Lance Corporal Justin M. Ellsworth's personal data are relevant here. Ellsworth was killed in action in Iraq in 2004. After Ellsworth's death, access to the personal data (emails, attachments, diary entries) which he stored with Yahoo! was requested by his father. The ISP's refusal to surrender the data led to a high-profile court case (Farwell 2007; Connor 2012). The judgement went against Yahoo!, who subsequently provided his father with the contents of emails sent *to* Ellsworth. The emails were provided on CDs, and as printouts. Outgoing emails sent *by* Ellsworth were not handed over (Tines 2005). The result would have been much like hearing only one side of a conversation.

If inheritors do gain access to digital content, they are repurposing it. New levels of personalisation are being introduced into funerals and memorial services, as digital content is used to evoke the life of the deceased. Orders of service incorporate images of the deceased (Walter et al. 2012). PowerPoint is used to co-ordinate the display of photos and video clips during the service, against a backdrop of the deceased's favourite tunes culled from their MP3 player (Moncur et al. 2012). In the longer term, the bereaved are reusing existing digital data to create their own technology-based responses to death and loss, such as online memorials (Hume & Bressers 2009; Nager & Vries 2004). Such repurposing can have a beneficial contribution to the bereavement process. Online memorial sites provide opportunities for shared grieving. The social media pages of the deceased present opportunities to maintain an on-going (albeit one-sided) conversation with them, and to share memories with others in the social network (Kasket 2012).

Grief has become more public online than it is offline, as the bereaved post comments on memorial sites, and casual visitors add to them. There are many positives to the opportunities to express grief online, especially for young people who communicate through this medium by default (Sofka 2009). However, the lack of accountability over the instantiation, ownership and moderation of online memorials can be problematic. While it is often possible to post inappropriate and insensitive content, it is more difficult for those affected most deeply by loss to remove it if they wish to.

Discussion

In this chapter, we have described the problems and challenges inherent to digital ownership across lifespans. While many users make the assumption that their valuable data can be passed on to inheritors, this is often not the case. Indeed, they may not even own their data. We have seen how it is extremely difficult even to identify a user's complete set of online assets, let alone take over ownership of them. At this moment in time, a Western user's digital lifespan has more features in common with their social life than their physical one: both digital and social life lack a distinct ending, or processes to mark that end. Much like reputation and memory, a user's data may linger after the user's physical death. Some of it may develop new significance as it is re-appropriated by inheritors, whilst much will surely be consigned to a dusty virtual corner where it will lie forgotten.

As users' digital footprints continue to increase dramatically, it is timely to consider how users want their digital assets to be managed, so that the financial, emotional and informational value embedded in them is not lost.

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